

**ABSTRACT****SPIN VALVE STRUCTURE WITH Si SEED LAYER AND REDUCED PtMn  
ANTIFERROMAGNETIC LAYER THICKNESS**

A magnetic head having a spin valve sensor that is fabricated utilizing an  $\text{Al}_2\text{O}_3$ ,  $\text{NiMnO}$ , Si seed layer upon which a PtMn spin valve sensor layer structure is subsequently fabricated. In the preferred embodiment, the Si layer has a thickness of approximately 20 Å and the PtMn layer has a thickness of approximately 120 Å. An alternative fabrication process of the Si layer includes the overdeposition of the layer to a first thickness of from 15 Å to 45 Å followed by the etching back of the seed layer of approximately 5 Å to approximately 15 Å to its desired final thickness of approximately 20 Å. The Si layer results in an improved crystal structure to the subsequently fabricated PtMn and other spin valve sensor layers, such that the fabricated spin valve is thinner and exhibits increased  $\Delta R/R$  and reduced coercivity.